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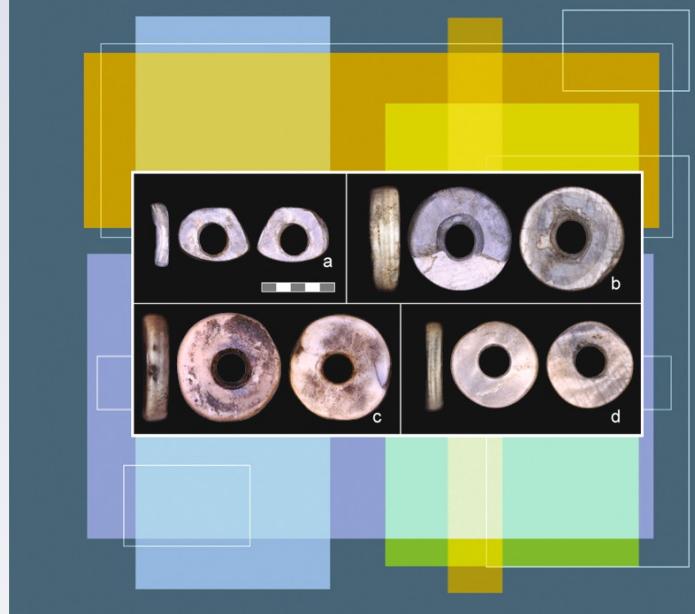
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## Settlement and Trade from AD 500 to 1800 at Angoche, Mozambique

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**Abstract** Angoche was an important historic trading port on the northern Mozambique coast. A maritime archaeological survey was undertaken of the islands and mainland to study Swahili trade, clarify the sequence of settlement development and record the exploitation of resources during the medieval and post-medieval periods. Previous archaeological investigations have revealed local ceramics from the early second millennium AD and imports from the late fifteenth century. According to oral traditions and ancient sources, Angoche's growth is associated with the arrival of coastal settlers from Kilwa in 1485. The survey revealed evidence for occupation dating from c. AD 500 and trading evidence from the late first millennium AD. Artefacts from the thirteenth to sixteenth century on the islands are similar to those found at Kilwa and Sofala, which shows a link to Kilwa earlier than the oral traditions and the name of one of the Angoche Islands 'Quilua', is Kilwa in Portuguese. The islands are well resourced in terms of rice, mangrove wood, seafood and farmland and offer sheltered inlets and access to the coastal trade route. The name of Angoche relates to a port of call and the presence of ninth-tenth-century- storage vessels from southern Iran

supports this theory. Traded glass and ceramic artifacts and beads increase from the late medieval period revealing that Angoche became an important and wealthy entrepôt. The lack of coral limestone and reef coral, on the sandy Angoche Islands, indicates some building materials would have had to have been imported. Although many buildings would have been made of wood, some stone ruins are likely to have been demolished and burnt to make lime. The original stratigraphy of many sites has been destroyed by aeolian and marine processes but the survey has shown that valuable information on settlement location and ethnographic practices can still be recovered.

**Résumé** Angoche était un important port de commerce historique sur la côte nord au Mozambique. Une enquête archéologique maritime d'Angoche des îles et du continent a été entreprise pour étudier le commerce swahili, clarifier la séquence de développement des colonies et enregistrer l'exploitation des ressources pendant les périodes médiévales et post-médiévales. Des recherches archéologiques antérieures ont révélé des céramiques locales du début du 2ème millénaire après JC et des importations de la fin du 15ème siècle. Bien que la croissance d'Angoche soit associée aux colons venant

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de Kilwa et à la réorientation du commerce de l'or à la fin du 15ème siècle, l'enquête a révélé des preuves d'occupation datant du 500 après JC et des preuves de la pratique du commerce dès le début du IXe siècle après JC. Les artefacts du 13ème et 16ème siècle trouvés sur les îles sont similaires à ceux trouvés à Kilwa, et Sofala. Ce qui montre un lien avec Kilwa plus tôt que les traditions orales ne l'établissent, et le nom de Quilua, une des îles d'Angoche, renforce cette idée. Les ressources des îles sont le riz, les bois de mangroves, les halieutiques, et des terres arables. Ces îles représentent, également, un abri pour les navires et permet un accès aux routes commerciales côtières. Le nom d'Angoche se rapporte à un port d'escale et la présence de navires de stockage du 9ème au 10ème siècle du sud de l'Iran soutient cette théorie. Les artefacts échangés de verre, de perles et de céramique augmentent à partir de la période médiévale tardive, révélant qu'Angoche est devenu un entrepôt important et riche. L'absence de coraux calcaires et de coraux de récif, indique que les matériaux de construction ont dû être importés. Bien que de nombreux bâtiments étaient fait de bois, quelques ruines de pierre sont susceptibles d'avoir été démolies et brûlées pour faire de la chaux. La stratigraphie originale de nombreux sites ont été détruits par des processus éoliens et marins, mais l'enquête a montré de précieuses informations sur l'emplacement de l'établissement et les pratiques ethnographiques peuvent encore être recueillies.

**Keywords** Kilwa · Medieval · Post-medieval · Indian Ocean trade · Swahili settlement

## Introduction

The East African coast, from the Horn of Africa to southern Mozambique, is renowned for its active participation in the Indian Ocean trade network since at least the seventh century AD. This is reflected in the political economy by the development of urban settlements and city-states (Duarte 1993). Considerable archaeological research efforts have focused primarily on its principal sites throughout modern Kenya and Tanzania, from Lamu in the north to Kilwa in the south (Chami 1998; Kusimba 1999; Horton and Middleton 2000; LaViolette 2008) (Fig. 1a). In Mozambique, Eduardo Mondlane University has conducted extensive surveys along the coast (Sinclair 1985; Madiquida 2007, 2015). This

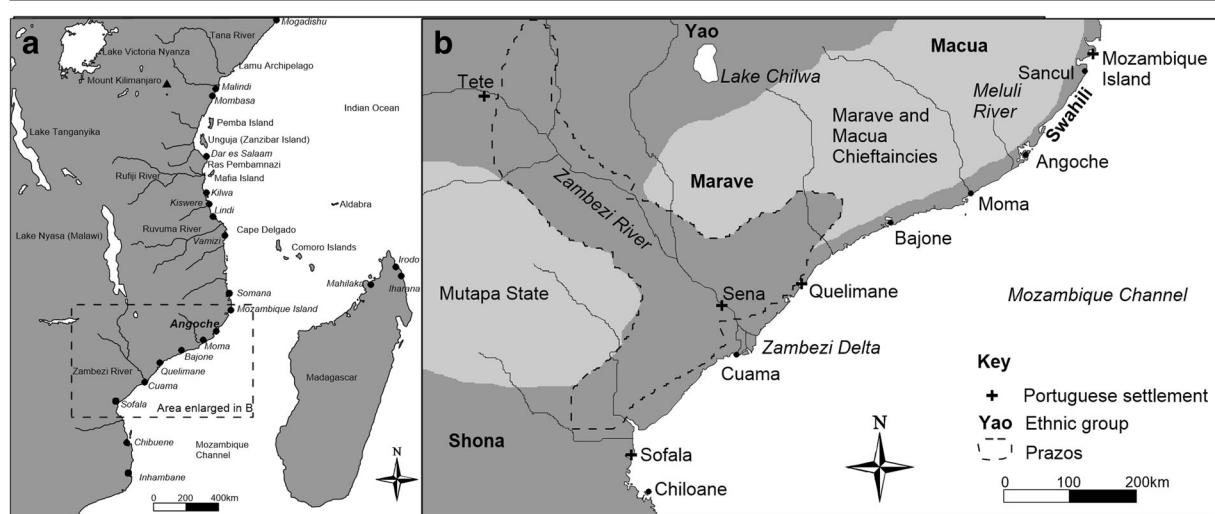
includes investigations at Somaná (Duarte 1993), an impressive stone-walled town probably abandoned at the beginning of the fifteenth century; the northern province of Cabo Delgado (Madiquida 2007); and Chibuene, which played an important role as the southernmost East African coastal trade centre from the seventh to thirteenth centuries AD (Sinclair 1982).

In May 2015, the British Institute in East Africa and Eduardo Mondlane University undertook an archaeological survey of Angoche, an important sultanate in the Mozambique Channel. The aim was to contribute to a study of Swahili trade to the south of Kilwa, clarify the sequence of development and record the exploitation of resources during the medieval and post-medieval periods. The team used a maritime archaeological approach to demonstrate that Angoche had ties to other Indian Ocean ports and to show how the landscape and coastal and marine resources stimulated trade (see Breen and Lane 2004; Pollard 2008). The methodology involved the traversing of the coastal and intertidal zone around the inlets and islands of the former sultanate to try to locate previous ports and landing places and to record boat technology.

The present main port of Angoche lies on the mainland at approximately 20° S, almost 900 km further south than the sultanate of Kilwa that controlled the coastal trade from the late thirteenth century. Angoche lies on the northern side of a bay, 23 km long and 18 km wide, in which the Angoche Islands are situated. It is separated by a channel 3–4 km wide from the islands to the south. The islands cover an area of 18 km E-W and 17 km N-S.

Mangroves fringe the sandy islands, which are separated from the mainland by the Quilua Channel. Important agricultural and maritime industries today include the production of cashew and rice, as well as prawns, salt and mangrove wood. Seine net fishing occurs on the facing Indian Ocean coast, with smaller nets used to catch juvenile fish or whitebait (known locally as *lipara*) in lagoons at low tide. Fish-trap fences are found in the sheltered channels on the seaward side of the mangroves. An indication of the historical links to the coasts of Tanzania and Kenya is the speaking of a Swahili dialect around Angoche called *Ekoti*, which is particularly noticeable on the islands (Thilo 2000, p. 1).

Angoche is a key region for study because it was linked historically by trade and kinship to the UNESCO World Heritage sites of Kilwa and Mozambique Island. It was situated on the important trade route to Sofala in southern Mozambique and would have had relations with surrounding inland populations. Accordingly, its



**Fig. 1** **a** The East African coast showing the location of Angoche. **b** Angoche geopolitical setting, fifteenth to seventeenth centuries AD (map: by authors) (images in full colour online)

study helps in the understanding of historic contacts, identities and development in southern Africa. From an environmental perspective, Angoche's deltaic features contrast with fringing coral reef to the north, which may impact upon the coastal resources supporting trade and subsistence. Sandy environments are more prone to erosion and re-deposition than limestone areas, and an attempt will be made to assess environmental change and coastal erosion.

## Background

To understand how Angoche developed, it is important to look at the settlement in its regional setting in order to compare resources and determine sailing routes and harbours. References to the coast in antiquity reveal who was trading and living there. This section first looks at the place name of Angoche and its significance; it then divides the southern East African coast's experience between AD 500 and 1800 into periods based on significant events in its development.

## Etymology

Thilo (2000, pp. 1–2) called the speakers of Ekoti, the Akoti (singular Nkoti), and referred to the Angoche Islands as Koti Island, saying that fishing and transportation were mainly by sailing boats known as *kalawa*. An earlier Ekoti place name for this area, *Ngoji*, was still in use c. AD 1900 and gave rise to the official

name of Angoche in Portuguese. Shepherd (1982, p. 139) believed the word derives from the Bantu *ngoya* meaning 'to wait', thus designating a waiting place or depot for goods collected over the course of a year before the change in monsoon direction. However, the monsoon winds that allowed sailing vessels to travel along the East African coast for at least 2000 years are not particularly strong south of Lindi in southern Tanzania (Datoo 1971). Instead, the waiting may have referred to resting until goods coming from the Zambezi arrived or awaiting permission to proceed further south to the Zambezi (*Ngoja* is also present in the place name *Unguja*, the Swahili name for the island of Zanzibar). Angoche's use as a port of call can be seen in 1508, when Duarte de Lemos anchored by "an island that lies at the mouth of the river Angoxe" and gathered fresh-water supplies from a welcoming village (da Silva Rego and Baxter 1963, p. 285).

## Early Medieval Period (AD 500 to 1000)

The greater part of the territory that today includes central Mozambique was in precolonial or medieval times known as the Sofala region, located to the south of the Zanj region (Duarte 1993, p. 41). In the tenth century, Al-Masudi described the Abyssinian Sea as stretching from the Red Sea southward, including the East African coast. He refers to the Land of the Zanj as south of the Land of the Abyssinians and north of the Land of Sofala. The border between the Lands of Zanj and Sofala may have been located originally around the

Mafia archipelago to the north of Kilwa. *Sufala* means shoal in Arabic, and indeed reefs and islands were reported as a navigational hazard by sailors from Ras Pembammazi, south of Dar es Salaam, to Kilwa (Pollard and Ichumbaki 2016, pp. 464, 467, 473; Trimingham 1975, p. 121). The islands and coast in the Zanzibar Channel to the north are generally sandier. Al-Masudi said Sofala produced gold and was inhabited by the Waq-waq (thought to be Austronesians [Beaujard 2018, p. 369]). However, pottery associated with iron-smelting debris of the Matola tradition dating from between the second and sixth century AD has been found in southern Mozambique (Sinclair et al. 1993, p. 417). It is similar to the Kwale tradition of Tanzania, indicating that African iron-working communities had spread along the coast by the early first millennium AD. The sources of the gold mentioned by Al-Masudi were probably located in modern Zimbabwe and the northern Transvaal, indicating coastal-inland trade connections during this period (Horton and Middleton 2000, p. 79). Excavations at Chibuene on the southern Mozambique coast identified the site as a port of entry for glass beads to the interior between AD 700 and 1000 (Sinclair et al. 2012, pp. 732–733).

#### Late Medieval (AD 1000 to 1485)

Muhammad Al-Idrisi, in the twelfth century, divided the East African coast, noting Berbera as lying to the north of the Sofala Coast. Most coastal settlement names of the coast mentioned by Al-Idrisi do not resemble place names of today. Al-Idrisi's geography extended the eastern coast of Africa eastward, as far as Southeast Asia, so that the Indian Ocean was shown as landlocked (Ahmad 1987, p. 160). However, Kilwa was known in the Indian Ocean at this time, as it is mentioned in the mid-eleventh-century *Book of Curiosities of the Sciences and Marvels for the Eyes* and in an early twelfth-century letter found in Oman, written to two brothers from Kilwa who were proselytising Ibadism (Wilkinson 1981, p. 273; Horton et al. 2017, p. 107). Later, Ibn al-Mujawir, writing in 1232/33, described Kilwa as an important stage en route from Aden to al-Qumr (Madagascar) (Trimingham 1975, pp. 127–128). One location that can be positively located in Al-Idrisi's work is Unguja (Zanzibar), which is referred to as among the Zabaj islands opposite the Zanj coast. He recorded the distance from Unguja to El-Banas on the Zanj coast as 1-day's sailing. Ahmad ibn Majid's

fifteenth-century *Poem of Sofala* revealed recognisable place names and approximate sailing distances along the eastern African coast; the length of Zanzibar was 1-day's sailing, suggesting 1 day to correspond to 80–100 km (Khoury 1982, pp. 61, 68–69). However, distances travelled daily would have differed considerably in response to the direction and strength of monsoon winds and currents, possibility of night sailing, need to avoid wreck hazards and the requirements for trading, supplying and servicing of the vessel.

Al-Idrisi described El-Banas as a large place and the last in Zanj as it borders Sofala. This would locate the Land of Sofala as south of modern Dar es Salaam, in the area suggested from Al-Masudi's writings as beginning with the Mafia archipelago of islands, islets and shoals stretching from Ras Pembammazi south to Kilwa. Al-Idrisi referred to several towns along the Sofala coast, describing iron-working settlements often associated with gulfs or estuaries where ships could enter. This is not a dissimilar picture to the archaeology of medieval settlements along the southern Tanzanian and Mozambican coasts, with many located on rias or estuaries such as Kilwa, Kiswera, Sudi Bay, Angoche, Bajone and Quelimane (Vérin 1970, p. 188; Isendahl 2006; Pollard and Ichumbaki 2016). Al-Idrisi said that Sayuna, where the ruler lived and housed Indian and African people, was around 7-days' sailing into Sofala. If sailing distances to the north can be relied upon, Sayuna could be in the Ruvuma River/Cape Delgado area. It lies at the southern limit of reliable monsoons and would have been a crossroad for trade across the northern Mozambique Channel to Comoros and Madagascar and that coming up from the south (Pollard and Ichumbaki 2016). Further south, for up to 10-days' sailing (including some nights), were more towns where gold, copper and turtle were traded. There is further reference to an Austronesian presence along with trade with Madagascar and perhaps the Srivijaya city-state on Sumatra (Sheriff 2010, pp. 183, 203).

In 1331 when Ibn Battuta visited Kilwa, he recorded a settlement called Sofala, which was a half-month's march (sail?) to the south (Freeman-Grenville 1962, p. 31). The Zambezi Delta and the location of Sofala are a distance of about 1400 km along the coast from Kilwa, again indicating average sailing distances around 100 km a day. In the fifteenth century, the navigator ibn Majid reported Sofala as ruled by the king of Kilwa and that it took 1 month to travel from Sofala to Kilwa (Khoury 1982, pp. 75, 77; Sheriff 2010, p. 114). The

extra time for the return journey can be explained by Datoo (1970, p. 1) who argued that the strong south-flowing current in the Mozambique Channel and weak southerly wind encouraged vessels to cross the channel to utilise the northward flowing current up the west coast of Madagascar. Ibn Majid recorded several recognisable ports along the coast between Kilwa and Sofala. These included Wamizi Island inhabited by Muslims; this is probably Vamizi Island in the Quirimbas Archipelago in northern Mozambique. Angoche was not mentioned, but places historically associated are including Musanbigi (Mozambique Island) and Muma Bay (Moma), though there were no details given of the inhabitants or trade (Khoury 1982, pp. 74–75). Mulbayuni was recorded as Muslim and a place to obtain silver and ambergris (Khoury 1982, pp. 70, 75). This is probably Bajone, which is halfway between Angoche and Quelimane. One of the most important places mentioned was Kwama Bay (Cuama, at the mouth of the Zambezi River), which was recorded as 'pagan' (Khoury 1982, p. 71) (Fig. 1b).

### Mainland Archaeological Survey

An archaeological reconnaissance previously conducted by Isendahl (2006) revealed no imported wares dating to the late medieval period. Accordingly, this does not contradict the historical evidence that Angoche was not at that stage an important port in the Indian Ocean trade. The survey was undertaken on the mainland area north of Angoche, which identified a site at the Estação de Meteorologia on a hilltop just north of Angoche City. A test pit revealed mixed-eroded stratigraphy with fragmented pottery characterised as Late Lumbo Ware (c. fourteenth century). Another site, Malapane I, lays on a ridge 3.5 km to the north and displayed extensive scatters of Early Lumbo Ware (c. twelfth century). This local pottery shows a common African coastal culture from similar pottery recorded in northern Mozambique and southern Tanzania, discussed further below.

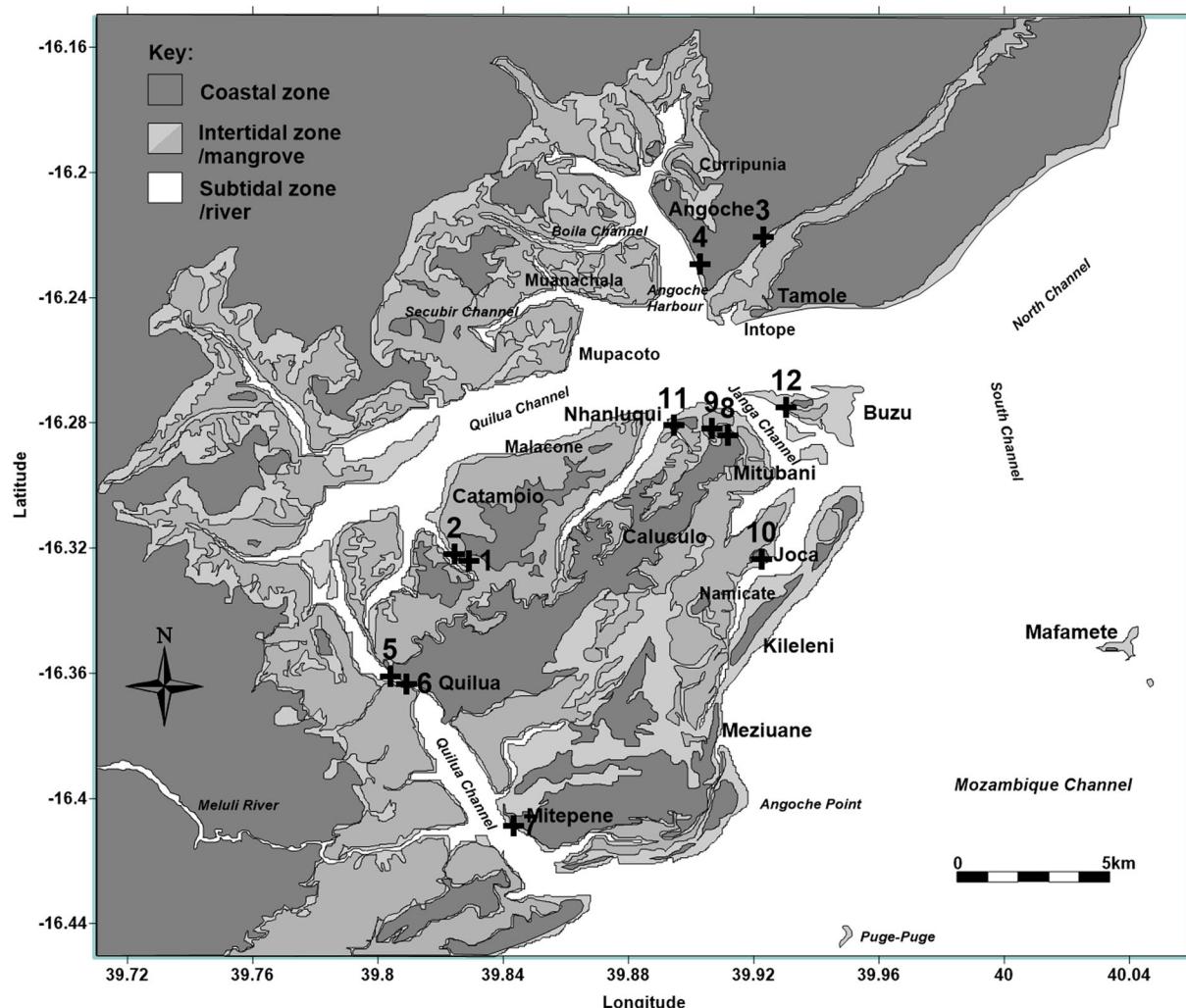
### Oral Traditions

Oral traditions along the Swahili coast had the function of providing a history to strengthen community identities and to legitimise the local social, economic and political order when the coast was ruled by European and Omani powers (Coppola 2018, p. 147). The evidence presented here from oral traditions will in later

sections be compared with archaeological evidence obtained during fieldwork. The oral traditions of the ruling family of Angoche link the foundation of the sultanate to the arrival of dissidents from Kilwa (Newitt 1995, pp. 10–11). The two leaders of the group expelled from Kilwa were Mussa and Hasani, who settled in Mozambique and Quelimane, respectively. They settled in and dominated pre-existing small Muslim communities (Cachat 2014, p. 46). Vérin (1970, p. 187) recounted that Hasani was originally from Zanzibar and married Malivo, the daughter of Bwana Mecussi of Kilwa. While travelling to visit Mussa, Hasani died at sea and was buried on *Kisiwa Sultanii Hasani*, an island known as Mafamede by the Portuguese. Mafamete, as it is known locally today, lies c. 10 km offshore (Fig. 2). Until the nineteenth century, the tomb of Hasani remained a place of pilgrimage for Muslims of the region (Newitt 1972, p. 398).

Visiting Hasani's grave, Mussa discovered that Angoche was a more favourable site than Quelimane and installed Xosa, the son of Hasani, as Sultan of Angoche (Newitt 1972, p. 398). Vérin (1970, p. 187) recounted oral traditions that Xosa made his home at Muchelele on Catamoio island (Fig. 2). Newitt (1972, pp. 398–399), studying the traditional history in the Kilwa Chronicle, identified successional disputes with a high-ranking official called al-Hassan ibn Suliman, who seized the throne from the ruling house in the late fifteenth century, but who was deposed and retired with his followers to Maghamghub. In trying to reclaim the throne, he assembled his forces at Kisibi, which may be the Quisiba in the Querimba Islands. This story fits well into the oral traditions of Angoche, which may have been Maghamghub. The new trading ports could have led to the decline of Kilwa and Sofala during this period, as an alternative trade route was opened along the Zambezi and into Mashonaland via the Luenha and Mazoe Rivers (Newitt 1972, 399). Early sixteenth-century Portuguese writers recorded the close trading links between Angoche and Mozambique (Newitt 1972, p. 398), while the names Mozambique or Moma sound more phonetically similar to Maghamghub than Angoche.

According to tradition, Xosa had four sons who founded the four noble families of Angoche (Newitt 1972, p. 403). The ruling family lived in Muchelele on Catamoio Island and were known as the Inhanandare, while the other families lived on the other side of Catamoio and were referred to as the Inhapakho (Newitt 1972, p. 403). Bonate (2003, p. 116) said that



**Fig. 2** Places mentioned and sites recorded around the Angoche Islands (E. Pollard)

the Inhapakho mixed with the families of local important chiefs, the Mwene, and became powerful along the coast. However, the Inhapakho have another origin tradition linking them to the Namuli Mountains whence they came to the Zambezi valley, the mythical cradle of the Macua (an ethnic group in northern Mozambique). The founder was a great woman, which stresses the political idiom of kinship and territory of the Inhapakho with respect to the ownership of land and in dealing with the matrilineal peoples of the interior (Bonate 2003, p. 122). The latter origin tradition and the presence of pre-sultanate artefacts to the north of Angoche suggest inhabitation prior to the arrival of people from Kilwa.

The oral traditions mentioned above establish the leaders of Angoche as kin to other Swahili along the

eastern African coast and to local coastal people, which is not dissimilar to (but several hundred years later than) the Shirazi origin tradition at Kilwa (Horton and Middleton 2000, pp. 53–56). Lupi (1903, p. 163) noted that the traditional ruling dynasties in Angoche had their origins in recurrent migration movements of coastal Islamized groups, which established alliances with local chieftaincies mainly through marriage contracts. Having these relations placed Angoche as a reliable and safe trading port for visiting merchants.

#### Early Angoche Sultanate (1485 to c. 1800)

Despite the presence of the Portuguese from 1498 onward, neighbouring inland states such as the Marave and Mutapa (Fig. 1b) and piracy and slave raiding, Angoche

managed to keep an important independent position in the region until the twentieth century (Botelho 1934, 1936). The historical evidence indicates that the Angoche sultanate was established in 1485, centred on the cities of Angoche and Moma (situated on an inlet 80 km south of Angoche), and exhibited important slave, gold and ivory markets (Alpers 1975; Syed 2011, pp. 162–163).

In 1517, the Portuguese geographer Duarte Barbosa wrote that Quelimane and Mozambique had the same language and customs as those of Angoche (Newitt 1995, pp. 10–11). The distinction between the people of Angoche and the Macua people (Fig. 1b) is mentioned in 1569 by Monclaros, who referred to the Macua cosmetic use of red ochre, filing teeth and piercing lips and inserting metal plugs. He listed Angoche local industries as the making of coconut-fibre mats, straw hats and turtle-shell boxes (Dickinson 1976, p. 4). Barbosa described the people of Angoche, some of whom were Arabic-speaking, as having black or tawny skin, wearing silk and cotton cloths below the waist with other cloths folded like cloaks on their shoulders, and some wearing turbans while others wore caps made of squares of silk cloth (Freeman-Grenville 1962, pp. 129–130).

dos Santos Fr (1891) recorded that in 1502 the Portuguese built a fortress at Sofala near an earlier small Muslim settlement. However, they realised that this settlement did not provide good access to the interior. The latter was more easily reached from boats travelling up the Zambezi, leading to new establishments along the river such as Sena and Tete (Fig. 1b). During this time, Angoche retained its importance and continued to play a significant role in the reorientation of trade, despite the Portuguese taking control of Sofala, Mozambique Island and Quelimane (Newitt 1995, pp. 10–11; Bang 2014, p. 54).

Diego de Alcaçova wrote to the King of Portugal in 1506:

...and, Sir, when the land was at peace three or four ships took away from Sofala each year a million of gold, and sometimes 1,300,000 miticals of gold, of over a million, and not below. I, Sir, also tried to ascertain if any gold went out of the kingdom of Vealanga and Toloa; ... I was told that through Angoya about 50,000 miticals came every year. (in Freeman-Grenville 1962, p. 123)

In 1508, the records of administration at Sofala show Angoche Muslims had a group of merchants at Sofala,

who bribed Portuguese officials to conduct private trade at the expense of royal trade. In 1511, goods were taken from Angoche to Maena, upriver on the Zambezi, where resided an African chief who grew wealthy on the customs dues of this traffic (Dickinson 1976, p. 2).

Barbosa said the settlement of Cuama lay 200 km north of Sofala on an island at the mouth of the main channel of the Zambezi (Freeman-Grenville 1962, pp. 129–130). Around 600 km from Cuama was the important sultanate of Angoche. Angoche used a distributary to the north of Cuama on which dugout canoes took silk and cotton cloth and Indian beads to exchange for gold and ivory. In 1511, Antonio de Saldanha estimated the population of Angoche to be 12,000 people, with a further “10,000 Muslims active in the interior,” reflecting the fact that Angoche, at that date, was one of the most thriving Muslim settlements in eastern Africa (Newitt 1972, pp. 401–402).

The Angoche sultanate went into decline following the Portuguese expeditions up the Zambezi in the 1530s and 1540s and was replaced by Quelimane as the main port (Newitt 1972, pp. 402, 406). Furthermore, the settlement of a new group of people in the hinterland, the Marave, blocked access to the mainland and imposed tolls on passing caravans (Fig. 1b). However, Angoche remained a centre for Islam and it expanded onto the mainland of Mozambique (Syed 2011, pp. 162–163). A Portuguese judge, Francisco Moraes Pereira, visited Angoche in 1752 and said it had recently been rebuilt on a new site after disputes with the Macua of the mainland had led to abandonment of the old town. The new settlement was a short distance from the beach on sandy ground towards the east. The houses were made of wood and thatched with straw but had no windows. The houses of the sultan were large and distinct from the majority in their fabric, and a large fence surrounded an adjoining area of citrus trees, palms and medicinal plants (Newitt 1995, pp. 187–18).

In the eighteenth century, an Islamic school operated in the town and the ruling house had close relations with Mombasa and Pate, while the area around Angoche was trading mats, honey, ambergris and ivory for cloth from the Portuguese on Mozambique Island (Newitt 1995, pp. 187–188). South of Angoche, along the coast and up the Zambezi River, Portuguese settlements like Quelimane, Sena and Tete and the *prazos* huge—concessions of land linked to colonial occupation and relying on a slave-labour economy—developed.

Only in the nineteenth century, however, did the Portuguese begin to occupy effectively what became modern Mozambique, setting up a colonial administration. Although involved in regional politics and conflicts with coastal states, the Portuguese did not disrupt the long-standing Indian Ocean trade network. Angoche continued as an Islamic trade centre focusing on rubber, ivory, and slaves, with links to settlements along the Swahili coast, and in the Comoros and Madagascar, and resisting the Portuguese until 1910 (Fage 1997, p. 503).

### Island Archaeological Survey

In 1975, Dickinson (1976) briefly surveyed two of the Angoche Islands: Catamoio and Quilua. The site of Muchelele on Catamoio Island revealed pottery dating from the late fifteenth to early seventeenth century (Dickinson 1976, p. 5). He accepted, based on oral tradition and artefact evidence, that Muchelele was the site associated with the beginning of the sultanate at the end of the fifteenth century. He described the assemblage as celadon from c. 1500, blue and white Ming porcelain from c. 1600, earthenware with highly glazed exteriors in sea greens and turquoise, imported glass beads of Indian red predominating but also purple, yellow, green and blue, and a bronze bead; African ceramics decorated with chevrons of parallel grooved lines, incised criss-cross, wavy-shell impressions of diagonal parallel lines, red oxide polish and a baked-clay decorated spindle whorl (Dickinson 1976, pp. 6–7). A sixteenth-century pedestal-based vessel with a double lip was considered to indicate Indian influence which, in conjunction with changing forms at Sofala, suggested the arrival of new people.

Dickinson's archaeological survey 1 km west of Catamoio village recorded post-mid-seventeenth-century blue and white porcelain; eighteenth-century magenta, blue and white Portuguese glazed earthenware; and carinated and double-lip forms of earthenware (Dickinson 1976, p. 5). This settlement site appears to show the move from the Muchelele site recorded by the judge Francisco Moraes Pereira in 1752.

### Summary

In summary, archaeology has shown that the Mozambique coast was inhabited by iron-working African people from around the second century AD, but there is also

documentary evidence of an Austronesian presence. From the late first millennium, the region provided locations to visiting ships for fresh supplies and trade. Previously, the earliest artefacts recorded around Angoche date to the twelfth to fourteenth century, but these have only been found on the mainland. Oral traditions indicate that the Angoche sultanate was established in the late fifteenth century by the arrival of dissidents from Kilwa, but there were earlier Muslim populations, and a different origin story refers to family ties with interior societies. Surveys on two of the Angoche Islands revealed local pottery dating from the late fifteenth to early seventeenth century, as well as imports from eastern Asia, India and Portugal. Therefore, we explore these origin stories by studying how settlements are organised on the islands and when trade began with the wider Indian Ocean. The sultanate, when formed, took advantage of new trade routes into the interior involving the Zambezi and contributing to the decline of Kilwa and Sofala. This claim will be investigated below by identifying any increase in wealth at the end of the fifteenth century and determining the sultanate's trade links and relationships with Kilwa involving the landscape, marine resources, settlements and transport routes.

### Maritime Archaeological Methods

There are cultural links to be expected in the economic symbiosis that exists between islands and mainland and between other eastern African coastal settlements. In this maritime environment, the prime functional integration of the region is achieved through the unifying element of the sea, with a production, trade and craft community facilitating long-distance trade and political functions. The food supplies also derive from the surrounding land and sea. The marine environment thus achieves crucial importance both as the basis for the economic prosperity of Angoche and provider of resources to sustain its inhabitants, as well as a potential source of construction materials for homes and seacraft (Pollard 2008, p. 265). Therefore, the adoption of a maritime cultural landscape approach offers an ideal discovery and interpretive context for understanding the functioning of the region and its society (Westerdahl 1992, p. 5).

The survey of Angoche, Mozambique, took place from 19 April to 2 May 2015. We visited Angoche City,

Catamoio, Quilua, Kileleni, Mitubani, Buzu, Joca, Mitepene and Nhanluqui and conducted 1-m<sup>2</sup> test pit excavations at Joca and Mitubani (Fig. 2). All excavated contexts were sieved with 5-mm mesh. Sites of investigation during the survey were determined by the existence of any one of the following factors: suitable landing places for trading vessels, the presence of modern settlement as reflecting positive conditions for economic activity and accessibility. The test pits were chosen from the survey results using the presence of surface artefacts and a need to see if stratified deposits exist to guide future, more extensive excavations. The islands were visited by motorboat except for the last visits to Mitubani and Joca, which were done in a local sailing boat. Most of the survey was done by observation, noting and recording with a hand-held GPS features such as landing places, artefacts, characteristics of the local geology, ecology and geomorphology, evidence of fishing, boat-building and other maritime activities. Local community members were asked to identify place names, features and on the first visit the location of any nearby ruins. The information was gathered informally by speaking to officials on arrival to an island and people close by when a feature of interest was observed. Later visits to islands involved walking the coastline and intertidal zone with detours to places of interest, and returning to the starting position by a different, more landward route if the island was too big to walk around. The limits were defined by the distance the surveyors could reach from their landing place, which involved around 7 h/day of survey including travel to the island. Time was available at the end of the expedition to dig test pits at two of the sites recorded during survey. These sites were mapped with a digital GPS. Visits were also made to the UK Hydrographic Office in Taunton, British Library and National Archives in London to consult documents and maps.

## Survey Results

### Environmental Change

South of Mozambique Island, the coast changes from offshore islands and reefs to low-lying swampy estuaries (Newitt 1995, pp. 10–11). Based on fieldwork and satellite imagery, the islands of Angoche can be described as a series of sandy barrier islands, which have formed parallel to the coast. This interpretation is based on the sediment recorded on the islands being largely

sand and the orientation of the islands in the bay being parallel to the NE/SW line of the coast from Mozambique Island to Quelimane. This suggests currents travelling in a similar direction along the coast redeposited the sands from the marine and estuarine environments. Although a simplistic geomorphological interpretation, the earliest island to have formed or the most environmentally stable is the ridge of which Catamoio is part. This is followed by the Quilua, Caluculo and Mitubani ridge and most recently the formation of Mitepene, Meziuane and Kileleni (Fig. 2). This sequence of island formation is supported by archaeological evidence recovered during our survey with mid-first-millennium material (probably the earliest pottery recorded) found on the western side of Quilua (Site 6). The survey revealed artefacts not older than the twentieth century on Kileleni or on the sand spits on the mainland to the north at Tamole. We did not visit Meziuane, and a possible earlier building on Mitepene was restricted to its western side, all suggesting the more recent formation of these eastern islands. Research by Armitage et al. (2006) demonstrated a similar process of island formation on barrier islands in southern Mozambique at Maputo Bay. Their work revealed several phases of dune deposition above an aeolianite core that has evidence of a high sea-level event with a wave-cut notch. The islands of Inhaca and Bazaruto were formed on spits over 250 ka extending from coastal promontories on the seaward side of river estuaries during a period of high sea-level. Offshore submerged outcrops delineating previous lower shorelines have also been recorded. Optically stimulated luminescence dating of stratigraphic units within the coastal dune systems revealed periodic dune-building and sediment reworking, during high sea-level phases of the later Pleistocene until the early Holocene transgression. This sediment was subsequently formed into parabolic dunes by the prevailing SE winds (Armitage et al. 2006, pp. 296, 298, 305–6).

Oral traditions gathered during the survey tell of settlements having to move due to marine erosion, aeolian transport of dune sands and sand cliffs collapsing into the channels, further revealing that Angoche is very environmentally active. To the east of Angoche, the Tamole Peninsula is a vegetated sand spit that has grown from longshore current deposition followed by dune formation, as sand deposits are reworked by wind action. The eastern islands including Mitubani and Kileleni have high sand dunes, and Buzu Village is built on a large dune island. Kileleni translates as “the place

of the summit" alluding to the high sand dunes. The modern village of Tamole was recorded at the southern extremity of the peninsula and further north is the beach of Praia Nova (New Beach) indicating recent accretion or shifting coastline. The 0.5-m-high sand cliff at Tamole contains undecorated pottery and is presumed to be a twentieth-century site. This recent deposition is continued to the south with the easternmost islands such as Buzu and Kileleni having sands only deposited in the last few hundred years. This is not to say that there were no islands in these areas in the medieval period, but the continuing erosion has redeposited earlier sediments and artefacts from settlements, therefore losing the original contexts.

The Secretary of the island of Kileleni told the survey team that the inhabitants of Kileleni originally came from Joca and Mitubani after sand dunes encroached and islands were eroded. He also said that Kileleni had once been connected to Joca. A large part of the island is sand dune with sparse vegetation indicating moving dunes, which may have led to the abandonment of the islands. In some places, casuarina trees have been planted to try to hold the soil in place. Buzu previously was about 1.5 km west of where it presently lies. The villager on Buzu who showed us around the island reported that the island has shifted due to erosion and deposition, leaving fellow villagers somewhat insecure as to their future. This was corroborated by the captain of the motorboat taking us around the islands. During the survey of Buzu, there was evidence of peat (from previous mangrove forests) on the intertidal zone around Buzu, as well as around nearby Mitubani, indicating that the intertidal sand bars, mangrove forests and sand flats also move. The captain of the local sailing vessel who took the survey team to Joca, said that Joca used to be around 1.2 km to the SW of Buzu. Today, this early Joca consists of intertidal sand bars with a few mangroves. People apparently moved from early Joca to modern Joca as the former eroded away.

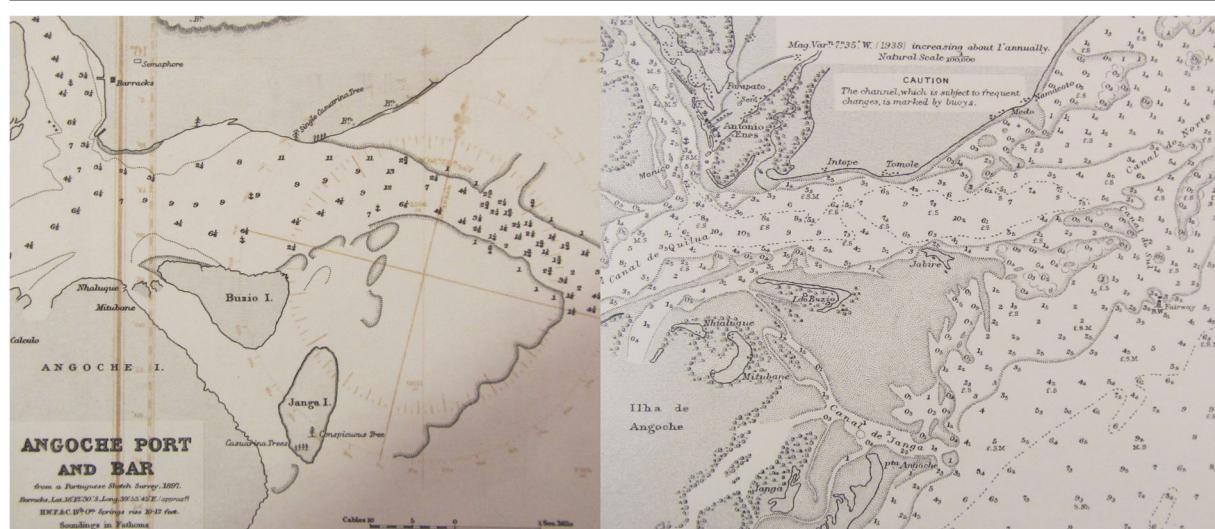
Some help in determining when these movements of people occurred can be derived by comparing the 1898 and 1938 Admiralty charts (Fig. 3). These maps show that early Joca (*Janga I.* in 1898) disappeared by 1938 and Buzu (*Buzio I.* in 1898 and *I. do Buzio* in 1938) decreased in size. One of the test pits on modern Joca was dug in a sand hollow to determine if the artefacts at this site (described below) were coming from below the ground surface or had fallen from higher up as the sand dune eroded. No artefacts were found, confirming that

the older artefacts were coming from the cliff as the sand dune migrated westwards.

#### Early Medieval (AD 500 to 1000)

Four sites were discovered that have evidence from the late first millennium AD: Namakuli on Quilua, Mitubani, Joca and Nhanluqui (Sites 6, 8, 10 and 11 on Fig. 2, respectively; Table 1). They are all situated at modern landing places. The artefacts from Namakuli are eroding out from near the top of a steeply sloping cliff. A deeply incised sherd is probably also similar to late first-millennium AD type 1 pottery described at Kilwa by Chittick (1974, pp. 320–321) (Fig. 4a). One sherd with a line of square punctuation is similar to Early Iron Age Nampula B tradition AD 350–700 (Sinclair et al. 1993, p. 422) (Fig. 4b). This date also seems to correlate roughly and is similar in decoration and fabric, with early Triangular Incised Ware (TIW) from the seventh–eighth century. TIW, also known as early Tana Tradition, are the accepted names along the Kenyan and Tanzanian coasts for necked jars with incised decoration and a series of other jar and bowl forms, dating to the seventh–ninth century AD (Fleisher and Wynne-Jones 2011, p. 246). This pottery has been recorded at Chibuene dating from the seventh century onwards and was possibly imported due to having a different fabric to other local ceramics (Fleisher and Wynne-Jones 2011, p. 246). Chami (1994, p. 92), working in Tanzania, divides TIW into early TIW from before the eighth century and a later TIW phase up to the eleventh century.

The Mitubani site has an undecorated earthenware fragment (Fig. 4c), and two others with incised lines and possible line of punctuation that could also be early TIW (Fig. 4d). The island of Joca is sparsely inhabited today with a single well dug into the sand and a few fishing huts. It is situated on the western side of another deep channel that is a southern extension to the Janga Channel, separating the island from the more populated island of Kileleni today. Joca has more evidence of later occupation discussed below but some artefacts are probably earlier, viz. an earthenware 'bead' grinder with 6–9-mm-wide grooves (Fig. 4e). Bead grinders are a class of artefacts that has been recovered at many sites on the eastern African coast mostly dating to the late first millennium AD (Flexner et al. 2008).



**Fig. 3** Comparison of segments of 1898 (left) (Owen 1898) and 1938 (right) (Edgell 1838) Admiralty charts showing shifting sands and islands at the mouth of Canal de Quilua (*not to be used for navigation*)

Furthermore, a thin incised diagonal, crossing and horizontal lines and line of punctuation decoration could be late TIW (ninth to tenth century) (Fig. 4g, h). The recovered sample of ceramics from the survey is too small to determine vessel form and ascertain subsistence and trade.

On Nhanluqui, three thick earthenware fragments, a rim (Fig. 4f), a fragment with two drilled holes and a flat base, are probably storage vessels and are similar to pottery fragments from southern Iran that have been recorded at Manda in Lamu Archipelago, Unguja Ukuu on Zanzibar, Sohar in Oman and Siraf in the Gulf dated to the late eighth to tenth centuries (Chittick 1984, pp. 84–91; Juma 2004, pp. 113–117; Priestman 2013, pp. 474–476; Pollard et al. 2016, p. 8). The sand spit where the fragments were found, on the western side of the island beside a deep channel, would have allowed ocean-going vessels to land. The low number of substantial sites indicates Angoche was not an important port in the Indian Ocean trading system. As all the sites from this period are under erosion, it is possible that more extensive evidence has been lost. However, the presence of imported pottery specifically for carrying cargo shows that ocean-going vessels did visit the harbour as a port of call similar to Kilwa during this period, rather than a port of trade as Manda, Kaole Village and Chibuene were in the late first millennium (Pollard and Kinyera 2017).

#### Late Medieval (AD 1000 to 1485)

Six sites have been ascribed to this period: Muchelele on Catamoio; Malomo on an inlet to the northeast of Angoche City; a field surrounding the colonial period Catholic Church in Angoche's City centre; Mululu on Mitubani; Joca; and Nhanluqui (Sites 1, 3, 4, 9, 10 and 11 on Fig. 2, respectively; Table 1). A cultivated field with modern ridge and furrows surrounding the Catholic Church, which is situated around 150 m inland from the fish-market landing place, allowed the team to discover sherds of pottery. Also on the mainland is the site of Malomo, located on a sandy low terrace on the west side of a mangrove creek to the northwest of Angoche City. The site was found due to sherds being exposed from erosion at the high-water mark (HWM) and more recent grave digging.

Catamoio is a large island. The name may come from Swahili *kata* (cut or divide) and *moyo* (heart) perhaps referring to the creeks separating the islands (or may have a connotation similar to Bagamoyo [lay down your heart] in Tanzania, believed to be related to cries by slaves or porters arriving at the end of a caravan route). The main modern landing place is accessed through a system of creeks to reach the southwest end of the island. However, the main historical port is Muchelele (Site 1 on Fig. 2) accessed only at high tide by a passage through the mangroves. It is used as a small landing place today and a coconut plantation is landward

**Table 1** Artefacts found at Angoche sites during the survey

Site	Area	Number of artefacts recovered	Description	Interpretation
1	Muchelele, Catamoio	46	Porcelain with a blue line; floral decorated porcelain; beige matrix earthenware with a white glaze; earthenware with oblique and parallel incisions; porcelain base with blue floral decoration; incised and comb-stamped earthenware; raised parallel lines on the shoulder of earthenware; stone ware greenish glaze—celadon; earthenware with an incised 'S' shape; stone ware green glazed rims and blue-green glaze around light pink matrix; undecorated ceramic seal or earthenware pot stopper; earthenware bicone-shaped bead or spindle whorl; quartz flakes; eight drawn red glass beads, cylindrical, dark brick red colour, drawn beads; three brick red wound beads; light green drawn bead, conical. Hexagonal (in cross section) shape, orange colour-carnelian faceted cylinder bead	Wealed Ware, Period IIIB/IV at Kilwa—fifteenth to sixteenth century (Chittick 1974, pp. 327–8); Carnelian beads are from Cambay, India (ibid.: 473–5) says. Indian red bead, found in Kilwa eleventh to nineteenth century (ibid.: 470–2, 481). Pot stopper (ibid.: 429, 432–3 from Periods IIIB/IV). Ming and Qing porcelain, Lumbo Ware, Islamic Monochrome
2	Faralah's Island, Catamoio	7	Earthenware rim; European blue and white porcelain with floral decoration; stone ware base with no glaze; European porcelain com red band and green leaf; green glass bottle base	Nineteenth-century glass and porcelain
3	Malomo	2	Incised earthware; comb incised earthenware	Lumbo Ware
4	Church, Angoche City	11	Earthenware decorated with oblique patterns; comb-stamped earthware; small fragment of yellow glaze on inside, green glaze on outside, pink matrix fragment	Possible sgraffiato of eleventh to twelfth century (Chittick 1974, p. 303), Lumbo Ware
	Muchelele, Angoche City	1	Earthenware with comb stamping	Lumbo Ware
5	Quilua	3	Earthenware seal of bottle stopper—incised mark on the base; earthenware fragment with lip and body with thin incision; blue and white probably flowered fragment	Earthenware rim similar in profile to Type 18 burnished food bowls Period III/IV Fig. 114l at Kilwa (fourteenth to sixteenth centuries), Ming Porcelain
6	Namakuli Landing place, Quilua	5	Comb incised line earthenware; coarse earthenware without decoration; earthenware with horizontal parallel lines; earthenware with oblique parallel incised lines	Early Iron Ware, Early TIW or Nampula B tradition AD350–700 (Sinclair et al., p. 422)
8	Winssura, Mitubani Village Landing Place	1	Earthenware incised with crosses	Incised vessel Period IIIb/IV at Kilwa
	Mitubani	3	Earthenware with parallel incised lines; earthenware with one line of incision; undecorated earthenware rim	Early TIW
9	Mululu (Mitubani)	14	Yellowish tubular bead; earthenware fragments with incised parallel and oblique lines and crosses; fragment of coral	Type 3 or 4 early kitchen ware Period II at Kilwa (late twelfth to thirteenth century) but also incised vessels Types 25 and 26 Period IIIB/IV (fifteenth to sixteenth century) IIIb/IV at Kilwa
	Mululu Graveyard, Mitubani	1	Earthenware fragment of modelled ware with incised lines	Husuni Modelled Ware
10	Joca	41	Whole earthenware bowls; earthenware with comb stamping; decorated earthenware base; earthenware with incised crosses; earthenware	Grave offerings, 'Bead' grinder; Late TIW, Husuni Modelled Ware Period IIIa at Kilwa (late thirteenth to fourteenth century), late TIW or

**Table 1** (continued)

Site	Area	Number of artefacts recovered	Description	Interpretation
11	Nhanluqui	17	decorated with ocher inside and outside; earthenware with parallel incisions; earthenware with relief lines—Wealed Ware; pink glass fragment; yellow matrix earthenware with white glazed interior fragment; coin with inscription '1953 Mozambique' on one side, 'Escudo Portuguese Republic' on the other; European blue and white floral, green leaf and red painted geometric decoration porcelain; clear orange stone, concoidal fracture—perhaps topaz; yellow fragment that scratches with a coin—gum copal; light blue glass bead, truncated bicone	Early Kitchen Ware Type 3 (Chittick 1974, p. 342 Fig. 100) (eleventh to thirteenth century), incised bowls Type 25 and 25a Period IIIb/IV (15th to 16th century), red burnished ware Period IIIa (late thirteenth to fourteenth century), Lumbo Ware
12	Buzu	1	Porcelain rim; incision and comb pattern; light grey glazed earthenware with fine grained sandy fabric, ridges along the outside on which the glaze is on; another fragment has grey fine sandy matrix with black specks, black glaze on inside and outside, up to 13 mm thick; celadon bowl rim with flutes along outside; earthenware with shell incision pattern; wound glass bead, light blue, bicone shape. Earthenware pointed base with 7-mm-diameter hole all the way through. Thick earthenware with lip and neck; regular surface ceramic with two holes; stone ware with floral inside; thick earthenware with two holes; thick earthenware base	Similar comb patterns from Period II (late twelfth to thirteenth century) from Sanje ya Kati (Chittick 1974, fig. 104) Type 6 Early Kitchen Ware, Qing porcelain, Lumbo Ware. Late sgraffiato (Horton 1996, p. 281), probably Iranian, from ninth to fifteenth century at Shanga. Storage vessel from southern Iran (Pollard et al. 2016, p. 8)
			Earthenware with incised parallel lines	Late Kitchen Ware Period IV/V at Kilwa (sixteenth to nineteenth century) (Chittick 1974, p. 380)

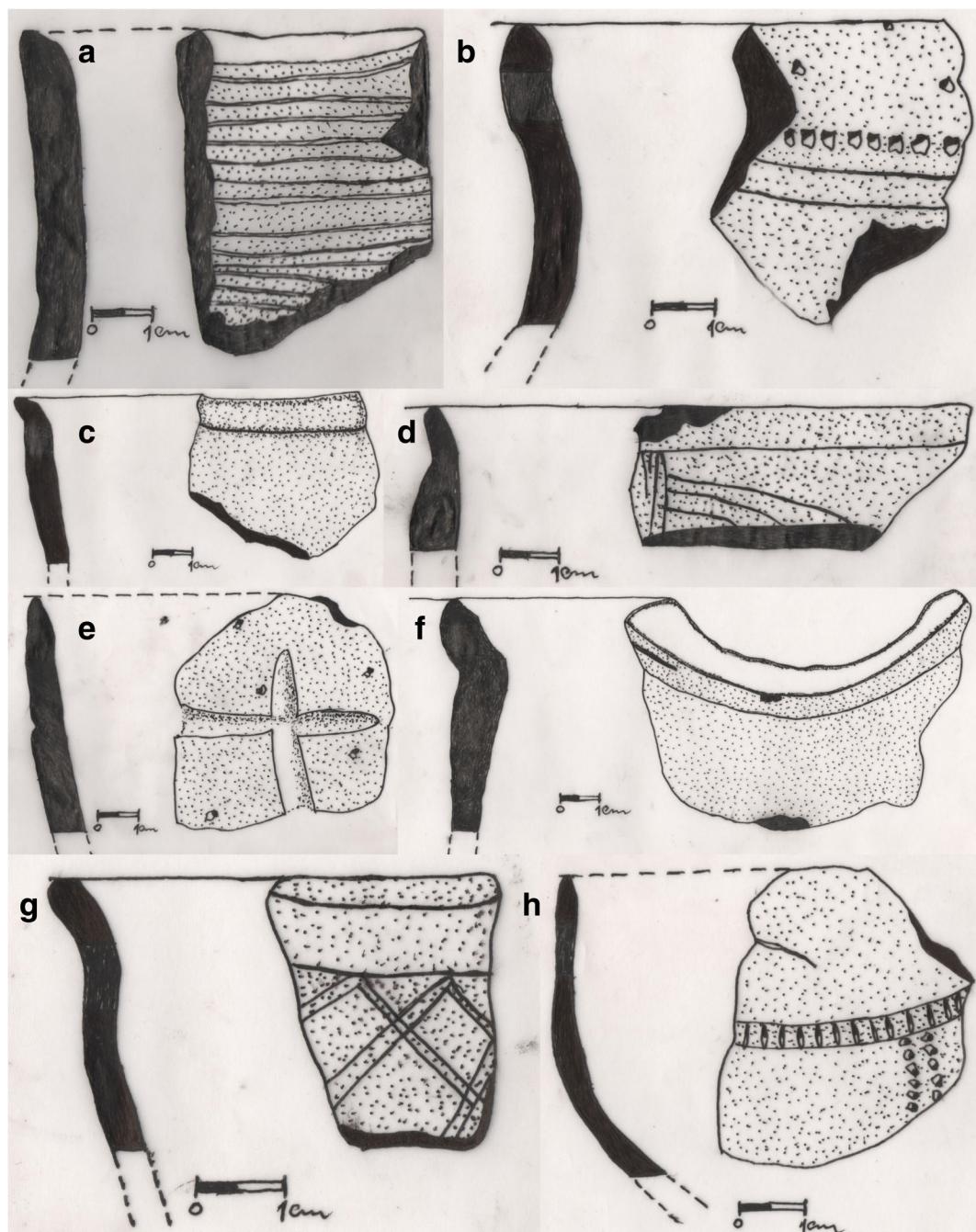
(Fig. 5). There is a 10-m-wide clear beach between the HWM and mangroves at the landing place. The eroding artefacts lie between the vertical sandy midden cliff face, 176 m in length and 0.5–0.6 m high, and the mangroves.

A short channel through the mangroves west of Mitubani village separates Mitubani from Nhanluqui, allowing vessels to land on a sand spit called Mululu (Fig. 6). There is a modern graveyard further away from the port along the spit: this has disturbed some potsherds, but most pottery was found eroding out of the sand spit's 0.5-m-high cliff near the landing place. Today, Mululu is used by people on *muatia*—a common local sailing vessel found around Angoche today (Fig. 5)—to export mangrove poles. The *muatia*'s beam is narrower than a dhow's, being shaped more like a canoe. It is carvel planked, narrowing at bow and stern. It can be paddled or rowed and is useful for navigating the many shallow inlets. It is also found on the ocean coast. It employs a lateen sail, and the rudder can be placed off the side of the stern. *Muatia* carry people and

cargo around the main channels of the estuary such as the west side of Kileleni, where mangrove poles and bags of fish and prawns are collected to take to Angoche. Though the date of the appearance of the *muatia* is unknown, a narrow sailing vessel seems to have developed to exploit both the creeks and more open channels of Angoche.

Modern fish-trap fences are also made at this landing place, and the shellfish (crown conch *Volema pyrum* and mangrove whelk *Terebralia palustris*) are processed perhaps for bait but can also be used for human consumption. We observed a large mast from a vessel bigger than a *muatia* suggesting dhows also land here or the occurrence of boat-building/repair. The modern spatial separation of the goods for export beside the main landing place, and the preparing of fish traps and boat repair in a different part of the port, can be seen in Fig. 6.

Nhanluqui is on the northern side of the Angoche Islands. At low tide, it is possible to walk from Mitubani



**Fig. 4** First millennium AD pottery. **a, b** EIW from Namakuli Landing Place. **c, d** TIW/Tana Tradition from Mululu, Mtambani TP1. **e** 'Bead grinder' from Joca. **f** Imported storage vessel from

Nhanluqui. **g, h** TIW/Tana Tradition from Joca (drawings: R. Duarte and Y. Teixeria Duarte)

across sand flats to this small island. The Nhanluqui village landing place is accessed from the Quilua Channel to the north by a passage through the mangroves.

Undecorated earthenware was found on the intertidal zone of the passage. The sand spit on the north-western side of the island contained two other landing places

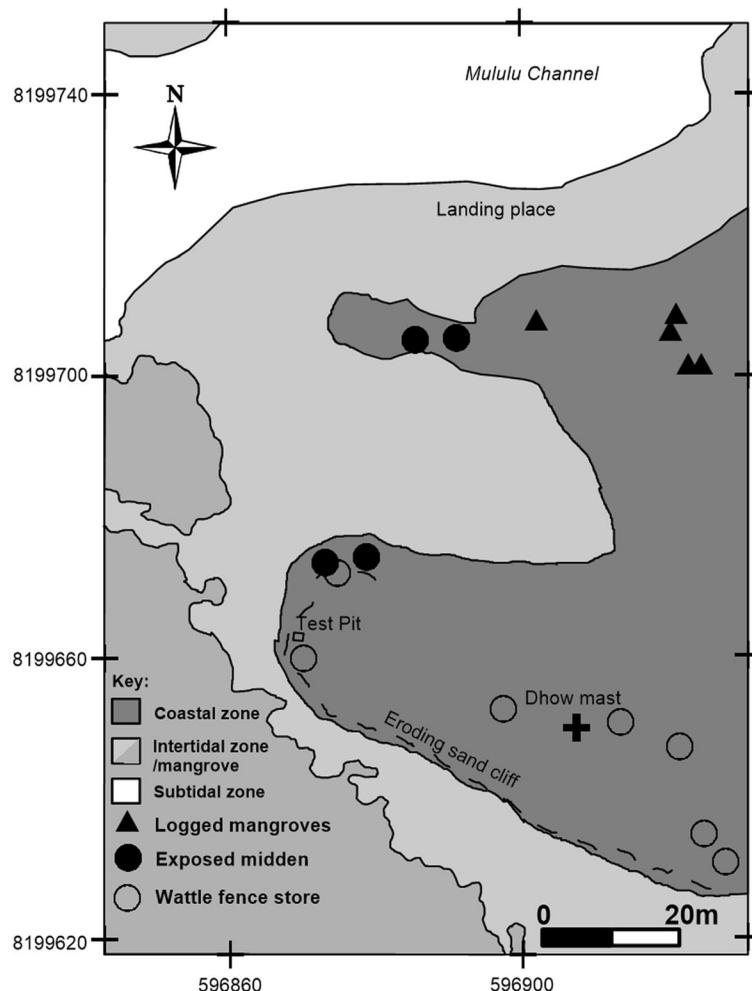


**Fig. 5** A *muatia* at the site of Muchelele on Catamoio where artefacts are eroding onto the landing place beach (Site 1) (photo: E. Pollard)

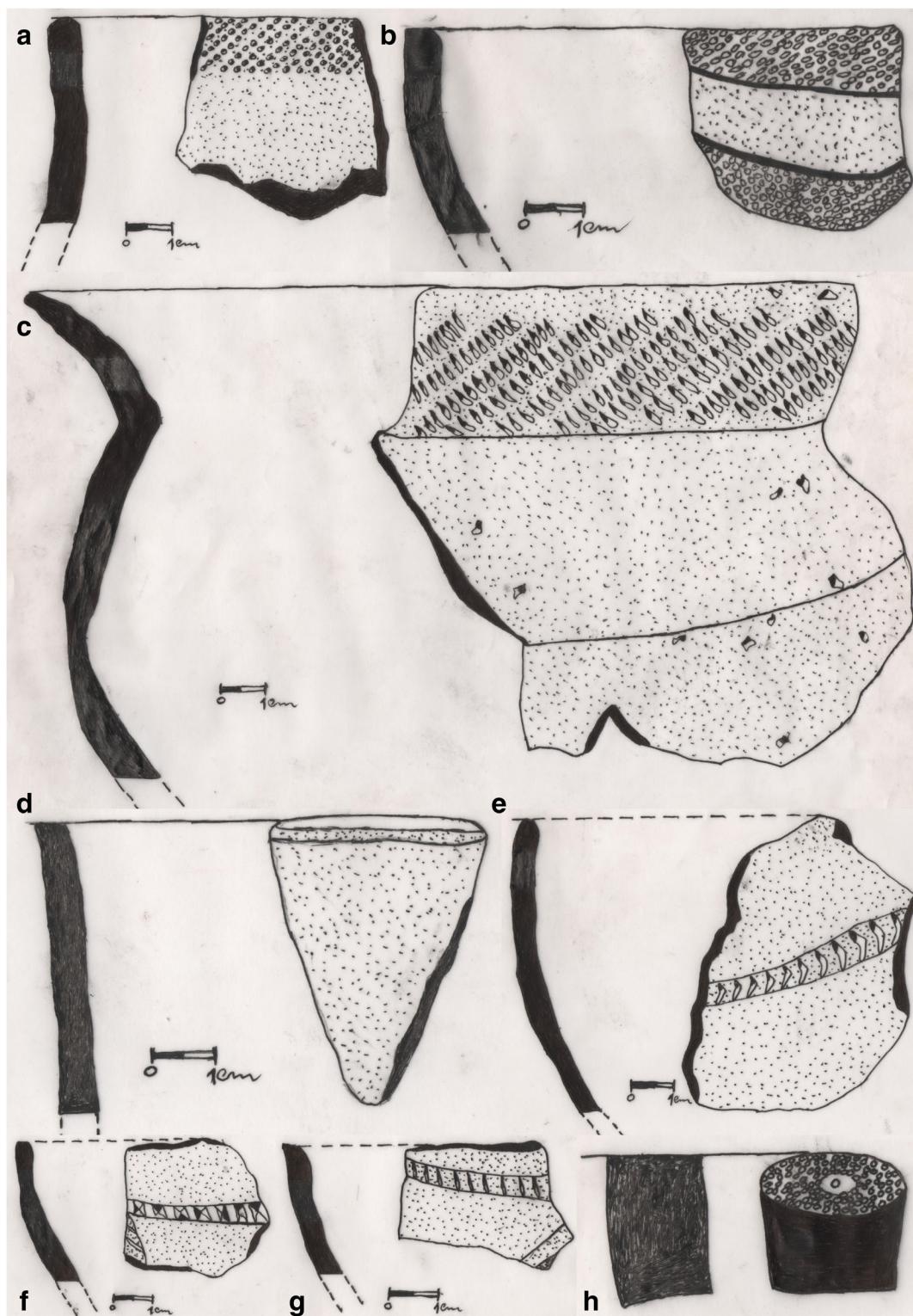
(mentioned in the first-millennium section above). The mangrove zone surrounding the island is relatively thin

along the sand spit, and there is also a large deep channel separating Nhanluqui from Catamoio, allowing larger sailing vessels access to and landing in this area. Two scatters of artefacts were found positioned between the mangrove zone and the HWM sand spit.

The Secretary of the island of Kileleni informed the survey team that Joca was inhabited from the “arrival of the Arabs.” This oral tradition may reflect a story told in Kilwa about Shirazi Persians settling on the coast around the beginning of the eleventh century (Horton and Middleton 2000, pp. 52–56). Although not to be taken word for word, these stories indicate that occupation of the islands and communication with the wider Indian Ocean is as old as the early second millennium. Late medieval imported artefacts were found on the mainland and islands during the survey (see below). Joca has a steep beach on its southern side beside the



**Fig. 6** Survey of Mululu site, Mitubani (J. Kanyingi and E. Pollard)



**Fig. 7** Second-millennium AD pottery. **a** Lumbo Ware from Catholic Church, Angoche. **b** Lumbo Ware from Muchelele. **c** Lumbo Ware from Joca. **d** Red Painted Ware from Joca TP1. **e** Fingernail

shell incision sherd from Joca. **f** Husuni Modelled Ware from Joca. **g** Wealed Ware from Muchelele. **h** 'Pot stopper' or seal from Muchelele (drawings: R. Duarte and Y. Teixeria Duarte)

Janga Channel overlooked by a high eroding sand cliff. This erosion has exposed a midden in the sand cliff that is also exposed in aeolian sand hollows to the west.

Pottery found at Muchelele, the Catholic Church and Malomo included diagonal and arcing comb-stamped or incised line earthenware. This is known in Mozambique as Lumbo Ware (Fig. 7a–c). Lumbo tradition is characterised by decorated bowls with impressed decoration, in bands or in geometric irregular compositions, immediately below the rim (Duarte 1993, p. 60). Sinclair et al. (1993, p. 425) refer to Lumbo Ware as similar to Period III (fourteenth century) at Kilwa. Kwekason (2011, pp. 110–111, 140–142) has another name for this pottery, Proto-Swahili Ware, recording the decorations as festooned, arched or horizontal bands filled with incised, impressed or burnished motifs, dating to after TIW and Plain Ware traditions, and occurs in southern coastal Tanzania south of the Rufiji Delta. Lumbo Ware has been found at several sites on the northern Mozambique coast from Vamizi Island in Cabo Delgado to Angoche, including the stone wall ruins on the islet of Somaná (Duarte 1993, p. 63).

The patterns at the Catholic Church have similarities to the bands of impressions, impressed dots and deeply incised lines from the fourteenth century in Chittick's (1974, pp. 334, 392) pottery from Kilwa. Dickinson (1975, pp. 93, 98, 101) referred to similar comb-impressed pottery from a midden at Muringare Bay near the Sabi River Mouth to the south of Sofala, which was radiocarbon-dated to the turn of the sixteenth century. However, an early second millennium AD date for the sites near the Catholic Church and at Malomo corresponds with dates that Isendahl (2006) noted along the ridge in this area. Furthermore, there are two C14 dates for Lumbo tradition sites: one from the Lumbo site  $580 \pm 75$  BP (St 8498) (Sinclair 1985) and another for Foz do Lurio  $835 \pm 140$  BP (St 11007), calibrated to AD 1214 (Stuiver and Becker) (Duarte 1993, p. 68). From this and other evidence, we suggest that the time span for the Lumbo tradition lies between the thirteenth and fifteenth centuries.

Nhanluqui, on the western spit side of the island, also has later pottery than previously mentioned, with decorated earthenware including fingernail or shell incisions, punctuation, arc and V-shaped comb patterns similar to cooking pots and bowls recorded at Kilwa and Manda from the eleventh to fourteenth century (Fig. 7a) (Chittick 1974, p. 374, figs. 104, 132, 150; Chittick 1984, p. 116; Pollard and Ichumbaki 2016, pp. 12–13).

Six incised earthenware sherds were found on the spit at Nhanluqui that could be vessel Types 25 and 26 from Kilwa, dated from the fifteenth to sixteenth century.

The Joca site has been disturbed from grave digging and contains offerings such as fragments of topaz and gum copal, bowls and lamps left in the nineteenth–twentieth century graveyard. Part of the hollow is the graveyard marked by reef coral gravestones, which have been eroded to presently lie flat on the sand (Fig. 8). Earlier artefacts include rolled string decoration at an angle below the rim, moulded horizontal and vertical line decoration with angled incised parallel punctuation, red painted (dated fifteenth–sixteenth century at Kilwa [Chittick 1974, pp. 325–326]), fingernail or shell-incised decoration and red burnished ware (Fig. 7d, e). The moulded decoration is particularly diagnostic from the late thirteenth to fourteenth century and referred to as Husuni Modelled Ware at Kilwa (Fig. 7f) (Chittick 1974, pp. 326–327). Test pits excavated at Mululu, 1.5 m east of the HWM (Fig. 9 and Table 2), and Joca (Figs. 9 and 10 and Table 3), also revealed later artefacts discussed in the next section. However, the pottery has been disturbed from erosion of earlier sand spits and dunes.

Imported ceramics include one with a pink matrix and green and yellow glaze that is possibly Islamic sgraffiato of the eleventh to twelfth century at the Catholic Church. Nhanluqui surface artefacts included a wound light blue glass bead, late sgraffiato, a shard of thick clear glass and a celadon bowl rim with fluting (Fig. 11). The latter is possibly Lung-ch'üan common at fourteenth century Kilwa (Chittick 1974, pp. 311–312). Late sgraffiato dates from the eleventh–thirteenth century AD at Shanga in the Lamu Archipelago and Kisimani Mafia near Kilwa (Horton 1996, p. 289).

The late medieval ports discussed show a preference for sand spits and land near inlet mouths and, therefore, have easy access and relatively deep channels for larger ships to enter, which is important for the passing oceanic/Mozambique Channel trade. The only exception to easy sailing vessel access is Malomo, which is located deeper in an inlet. The presence of trade items indicates that Angoche was then part of the coastal trade and a port of call for supplies and vessel repairs. It could be significant that reef coral and plaster fragments were found at Malomo, as reef coral is not as common as it is further north where there are fringing reefs and the material is more accessible and abundant. Therefore, reef coral was probably a traded item at this time. It



**Fig. 8** Eroded graveyard on Joca (Site 10) (photo: E. Pollard)

was around this period that buildings of limestone and reef coral became common to the north.

The Muchelele (Catamoio) and Catholic Church (Angoche city) collection is very interesting as it associates Lumbo tradition sherds with imports, not recorded previously at Lumbo tradition sites. Some of the Chinese greenwares (celadon) and porcelain recovered are possibly Song dynasty (tenth to thirteenth century) though there is also later Ming Dynasty (fourteenth–seventeenth) ceramics present (Fig. 11). It is also possible, however, that there are Islamic copies of glazed Chinese wares dating to the same period in the assemblage.

#### Early Angoche Sultanate (AD 1485 to c. 1800)

Five sites have been ascribed to this period covering the early Angoche sultanate: Muchelele on Catamoio, Quilua, Mitepene, Mululu on Mitubani and Joca (Sites 1, 5, 7, 9 and 10 on Fig. 2, respectively; Table 1). The sites of Muchelele, Mululu and Joca continue in use from the earlier period.

The modern Quilua port is on the northwest side of the island beside the Quilua Channel and is more gently sloping landward (with only a small sand cliff) than the high cliff described before at the early medieval Site 6 to the south. Quilua was a Portuguese administration centre. Landward of the main modern landing place are twentieth-century colonial buildings. Older artefacts were found in the cultivated fields of cassava and sweet potato and below the low sand cliff of the port. To the southeast, Mitepene port on the southwest side of Mitepene island, near the southern exit from the Quilua Channel to the Mozambique Channel, has a wide space

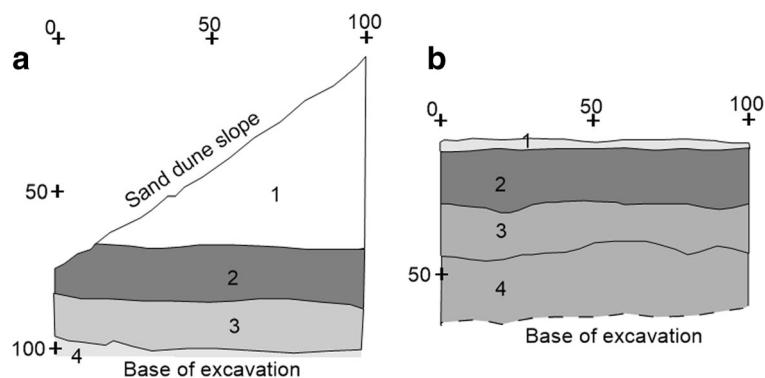
in the mangroves so vessels can land (around 50 and 100 m from LWM to HWM) with a steeper upper beach before the coconut plantation around the modern village. No artefacts were found here but remains of undated limestone buildings were found along the Quilua Channel further north.

At the landing place of Mululu on Mitubani (Fig. 6), eroding out of the sand spit's 0.5-m-high cliff, were six earthenware sherds with incised designs similar to Incised Vessel Types 25 and 26 from Kilwa, i.e., a fifteenth–sixteenth century decorated pot, and a green drawn bead was found (Site 9 on Fig. 2). A thinly incised, possibly Incised Vessel, dated at Kilwa from the fifteenth–sixteenth century, was found at Winssura, in the north of Mitubani, in a creek suggesting that the site of Mululu may have been more extensive including the modern landing place and village of Site 8.

Excavation at Mululu, Mitubani and Joca revealed very similar dates based on the artefact assemblages. Excavation into the sand dune at Joca to the south of the graveyard (TP1 on Figs. 9 and 10) revealed two occupation deposits between sand dune aeolian deposits. The lower occupation context had Red Painted Ware and burnished bowls probably dating to the fifteenth century. Most artefacts came from the upper context dating from around the sixteenth century, including Red Painted Ware and an incised sherd. Excavation into the sand spit at Mululu again shows the main occupation from the fifteenth to sixteenth centuries. The dating of the sites excavated corresponds to an increase in activity at the time of the early Angoche sultanate.

Catamoio became the main centre at Angoche as is evidenced by the density of local and imported ceramics eroding out of a vertical sandy midden cliff face at Muchelele. The local artefacts include a rounded hammer/grinding stone, spindle whorl, dhow nails and fish bone. Local earthenware included incised Wealed Ware (Chittick 1974, pp. 327–328) (Fig. 7g), comb stamping and line of punctuation suggesting a main inhabitation around the fifteenth–sixteenth centuries, but the range of artefacts suggests long-term use from the thirteenth–nineteenth century. 'Pot stoppers' are similar to those from Kilwa recorded from the fifteenth–sixteenth centuries AD (Chittick 1974, pp. 429, 432–433) (Fig. 7h). Dickinson (1976, p. 5) referred to a spout for a goatskin water bottle and the stopper recorded at Kilwa may be a similar artefact. On Quilua, a ceramic 'pot stopper' and an earthenware rim, similar in profile to Type 18 burnished food bowls from Kilwa

**Fig. 9** South section wall of Joca TP1 (a) and East section wall of Mitubani TP1 (b) (A. Faquir and E. Pollard)



(fifteenth–seventeenth century), were recorded at the landing place. The pot stopper on Muchelele is decorated on one surface and may thus have been used as a stamp or seal in trade transactions.

Imported artefacts found at Muchelele include blue and white porcelain, Islamic monochrome, yellow and Indian red beads, a light green drawn bead, celadon, a carnelian faceted cylinder bead and green and brown glass. In the Joca excavation gum copal, an eastern African product used as a base for varnish and as incense in the Middle East and India, and two fragments of green glass 2.5 mm thick were found. The landing place and cultivated fields landward at Quilua had seventeenth–eighteenth-century blue and white porcelain eroding out of low cliff at HWM around the main landing place (Site 5). Unlike Catamoio, there is no dense midden in this area, but the artefacts suggest some occupation from about the fifteenth century to the present.

In the Joca excavation, there is also a noticeable increase from the lower to upper occupation context of the presence of daub. The daub in the Joca excavation suggests wattle-and-daub houses were built on site. The single fragment of reef coral found could have been used in the daub walls or left over from making lime. The lack of daub in the Mululu excavation suggests houses may have been further landward, perhaps where the modern village is today. However, there are some pebbles of reef coral and sandy mortar suggesting that reef coral was imported, caught in fishing nets or burnt to make lime.

The mangrove whelk found in the Mululu excavation are relatively small, suggesting that they are *Cerithidea decollata*, whose habitat is the trunks of mangrove trees and come from the exploitation of mangrove wood. The large amount of fishbone also in the excavation dating

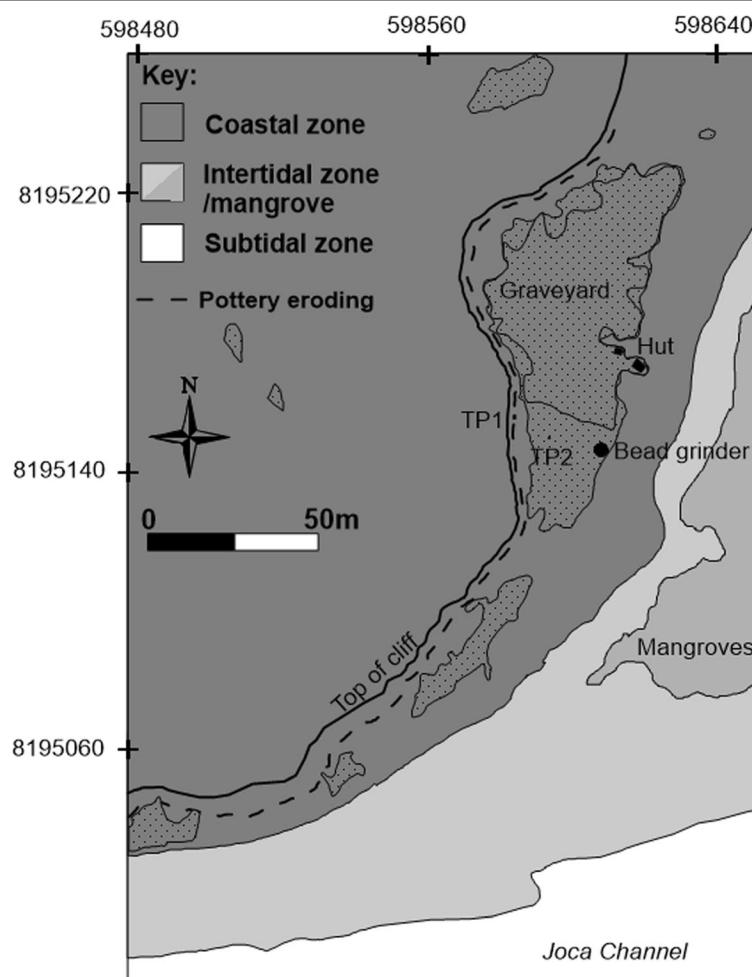
from the fourteenth–sixteenth century shows how important fishing, as well as mangrove exporting, has been at this port. In the Joca excavation, the mangrove whelk also indicates the exploitation of the mangrove forests, and the *V. pyrum* (crown conch), clam, cockle and *Ancilla* (olive shell) show visits were also made to intertidal sand and seagrass areas. The presence of *Nerites* is unusual as they are normally found on intertidal rocks. It is possible that they were brought during transport of limestone or reef coral, which was then burnt to make lime. Local inhabitants reported that there had been a coral building at Quilua port between the landing place and the Portuguese-period administration area but that it had been destroyed for lime making from the 1960s. The landing place and cultivated fields landward at Quilua had traces of burnt reef coral.

Although undated, a coral limestone foundation on Mitepene (Site 7 on Fig. 2) lies to the north of the main landing area. The buildings here have been severely exploited to make lime and only a mound remains, but its orientation and circular possible foot-rubbing stones indicate a former mosque. Nearby there are two coral-stone graves and a rectangular cistern. Evidence of modern lime making occurs nearby near the HWM, which could have used the limestone from nearby buildings.

It is noticeable that occupation during this period relates solely to the islands. This may be due to low survey activity on the mainland but could relate to centralising of the sultanate at Muchelele and a preference for an island location away from raids by mainland tribes. The occupation also indicates an increase in activity in the fifteenth century, continuing into the sixteenth, which could be associated with the start of the sultanate. It does not show an increase in the number of sites but more likely an expansion of the sites

**Table 2** Description of contexts and artefacts in Mululu, Mitubani TP1

Context	Description of context	Number of local pot fragments of:				Weight of bones (g)	No. of Mangrove whelk	Volema	Anadara	Description of artefacts	Interpretation
		Undecorated rims	Decorated rims	Undecorated rims	Decorated body						
1	Light grey fine to medium sand, loose, grass roots, Hue 5YR 7/1	145	6	19	28	198	100	23	3	5	9 Red Painted Ware; 24 Incised vessels; 2 Husuni Modelled Ware. Fish bones, 1 animal bone, small mangrove whelk, small to very large pebbles of reef coral, sandy mortar, 1 heavy grinding stone, 1 sandstone medium pebble, 1 <i>Verita</i>
2	69% medium, 29% fine grained sand, loose, roots, 2% charcoal Hue 5YR 4/1 dark grey	29	1	1	4	35	50	54	4	7	3 Incised Vessels; 1 red painted rim sherd. Fish bone, small mangrove whelk, 1 broken large pebble iron stone, 12 reef coral pebbles, 1 small white land snail; gum copal
3	Loose sand (20% coarse, 50% medium, 30% fine) Hue 5YR 5/1 Grey	29	1	1	4	35	50	54	4	5	Fish bone, sandstone with large quartz pebbles and with two smooth sides (possible sharpening or grinding stone), 1 pumice pebble
4	Loose (50% fine, 50% medium) Hue 5YR 6/1 Grey	3								7	Beach sand, perhaps the landing place for a fourteenth-century settlement



**Fig. 10** Plan of Joca site (J. Kanyingi and E. Pollard)

previously used. Exceptions do come in the use of sites on the more secluded landward side of the islands with relatively easy access to the hinterland but lack of easy access to larger ocean-voyaging vessels. This may have been a strategy to avoid the larger Portuguese vessels or even other Swahili attacking ships. However, Joca and Mitubani were still in use during this period: they have nearby deeper water channels and are close to the passing ocean trade. The naming of the island of Mitepene after the ocean-going transport vessel *mtepe* may have appeared at this time, as sailors would have found it easier to land here rather than travel further up the Quilua Channel to Muchelele, where smaller vessels were more practical.

It is significant that Quilua became more important in this period. Previously, based on material culture present it appeared relatively uninhabited, except for some sherds from the top of the sand cliff dating to the first

millennium. The landing place is also in a less accessible part of the creek similar to Mululu. Perhaps, this was when Quilua got its present name, with the arrival of immigrants from Kilwa who wanted to retain a link with their homeland or to create 'New Kilwa', as trade in Kilwa was restricted by the Portuguese. Using the name Kilwa would have been noticed by vessels trading along the coast who knew it as an important place of trade, pilgrimage and safety.

The tentative evidence of limestone, reef coral, mortar and lime during this period shows a trade had developed with coral and limestone areas to the north. The surrounding mainland area of Mozambique Island has some mangrove habitat but it is not as extensive as at Angoche. Therefore, coral limestone and reef coral from which lime could be made are likely to have been traded with Angoche for mangrove wood. The export of mangrove poles today from Mitubani and the presence of

**Table 3** Description of contexts and artefacts in Joca TP1

Context	Description of contexts	Number of fragments of:				Bone weight	No of shells	Description of artefacts	Interpretation
		Undecorated sherd s	Undecorated rims	Decorated body sherd s	Total sherd s				
1	Hue 10YR 8/2 white, loose, fine grained								Sand dune formation, seventeenth century to present
2	Hue 5YR 5/3 reddish brown loose silty sand, charcoal, 50% medium, 30% fine sand, 5% charcoal, 15% silt	79	22	1	102	27	20	7	Main occupation, sixteenth century AD
3	Hue 5YR 5/2 reddish grey, loose 60% medium, 40% fine sand, large lumps of charcoal	23	4		27	2	10	1	Preliminary occupation, fifteenth century AD
4	Hue 10YR 7/2 light grey, loose 60% fine sand, 2% charcoal, 38% medium sand								Sand dune formation



**Fig. 11** Imported artefacts found during the survey. **a** Muchelele celadon. **b** Nhanluqui celadon. **c** Ming porcelain from Muchelele. **d** Qing porcelain from Muchelele. **e** Storage vessel from Nhanluqui. **f** Late Islamic Sgraffiato from Nhanluqui (photos: R. Duarte and Y. Teixeria Duarte)

mangrove whelks in the excavation at Mululu nearby suggest the mangrove trade is ancient. Further evidence of the continuing rice trade during this period is in the name Muchelele, which is from *mchele* meaning uncooked rice in Swahili. The traded artefacts of glass, beads and ceramic have increased from the late medieval period, especially at Muchelele showing that this was the prime settlement by the fifteenth century. It reveals that Angoche was, as oral traditions and historical documents attest, an important and wealthy entrepôt during this period.

## Discussion

The Angoche Islands are well resourced in terms of mangrove wood, seafood resources and farmland. Moreover, they offer sheltered harbours and landing places with access to the coastal trade route. However, as the basic geology of the islands is sand, the original systematic contexts of many sites have been destroyed by aeolian and marine processes. Movement of settlements along sandy coasts due to erosion and deposition has also occurred. This phenomenon is not restricted to Angoche. Parts of Sofala have also been eroded; for example, the Portuguese fort is under water at high tide and a nineteenth century village has disappeared (Liesegang 1972, p. 151). Despite the instability of the environment that threatens the archaeological record, the survey of Angoche has shown that valuable information can still be gathered. The study of current forms of environmental exploitation and maritime activities, such as fishing and the use of landing places, often mirrors the archaeological record and thus gives insight into the past economy of this area. Although this initial expedition explored only a small sample of the islands and mainland in the Angoche area, our research revealed information regarding settlement patterns in the area and connections with Indian Ocean trade. Furthermore, our work highlights the potential for maritime archaeological and ethnographic research in this area and provides a basis for future expeditions to locate and date settlements.

### Settlement Patterns

The earliest settlement discovered so far in Angoche archipelago is Namakuli, based on the collected pottery dated to the mid-first millennium AD. Early medieval

sites are situated at landing places used today, suggesting the marine environment was being used for transport from the earliest occupation. The similarity of the TIW fragments and a bead grinder to those farther north indicates that Angoche was already part of a coastal group of Swahili people. The later medieval ports discussed show a preference for sand spits and land near inlet mouths and, therefore, have easy access (without having to wait for the tide) and relatively deep channels for larger draught vessels to land, which is important for the passing oceanic/Mozambique Channel trade. The only exception to this pattern of easy sailing vessel access is Malomo, which is located deeper in an inlet.

The extent of landscape change could have been a factor in changing the access to the sea on the eastern-most settlements such as Malomo and Buzu, as they are more exposed to the currents in the Mozambique Channel. Among the more landward islands, erosion and accretion from tidal currents and aeolian erosion and sand dune development have been occurring continually since their formation. However, these processes are not powerful enough to have taken artefacts far from their original place of deposition. Therefore, the spatial distribution of artefacts and landscape features such as breaks in the mangroves and sand spits are useful to understand the location of landing places and port settlement.

During the early Angoche sultanate, although there is an increase in activity on Mitubani and Joca, there is a settlement shift deeper into the Quilua Channel that can be seen with a prime port at Muchelele on Catamoio and also Quilua. A preference for these sheltered and landward areas may be partly due to more agricultural possibilities, as opposed to fishing and coconut plantations on the eastern islands. This can be seen with the rice fields recorded during the survey and Muchelele's name meaning rice. Most houses were wattle-and-daub, but there is some evidence of limestone buildings on Mitepene and Quilua. Occupation during this period appears to be concentrated on the islands due to centralising of the sultanate at Muchelele but perhaps also because of a preference for an island location away from raids by mainland groups. Alternatively, the more secluded Muchelele site had easier access to the hinterland, but non-easy access for visits by larger ocean-voyaging Portuguese vessels, or even other Swahili ships such as from Kilwa, with which Angoche was known to be in conflict during the late fifteenth century (Newitt 1972). Navigation, however, was not a simple

matter. Muchelele is accessed only at high tide by a passage through the mangroves, suggesting that ports such as Mitepene and Mitubani, with more easy access for deeper draught vessels and the passing ocean trade, were used for transhipment or waiting for tide to change before going upstream. The more eastern ports were also in good locations to exploit fish. The shallow channels around Angoche explain the popularity of smaller vessels such as the muatia. The Admiralty charts and coastal view show how the larger vessels can navigate the sand bars at the harbour mouth, but previously local knowledge would have been necessary. The mangroves and intricate complex of channels at Angoche were ideal for slavers, smugglers and small-time coastal traders (Newitt 1972, p. 397). The secluded nature of Catamoio allowed slave trade and piratical activity to continue into the late sultanate period.

#### Connections with the Indian Ocean Trade

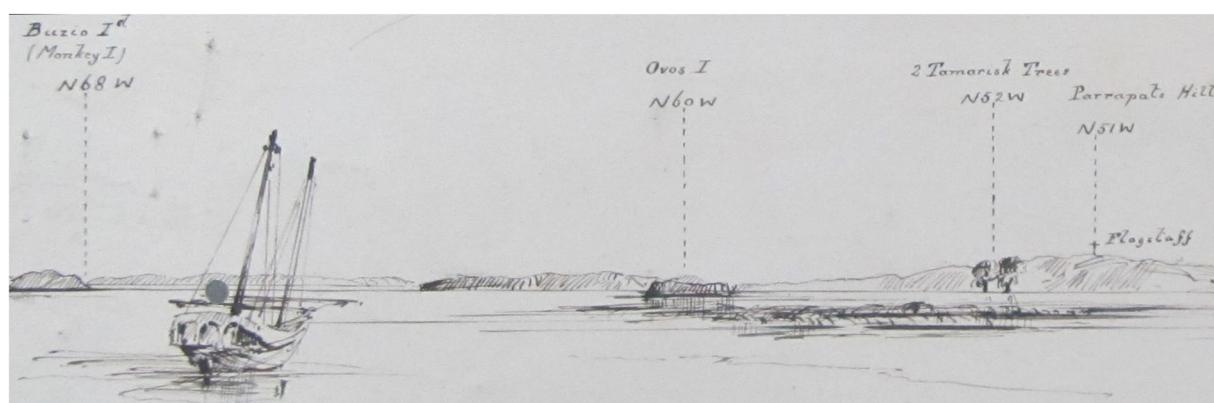
Pollard and Ichumbaki (2016, pp. 466–467) and Pollard and Kinyera (2017, pp. 941–942) discuss different types of ports found along the eastern African coast during the medieval period, including the entrepôt where extensive export-import operations occur, leading to the presence of foreign goods, warehouses and the testing of merchandise by officials. There would have been smaller and less wealthy commercial ports involved in the Indian Ocean trade, where transhipment of goods between vessels of different size (from inland channel to ocean-going craft), or between sea and land transport, would have occurred. A port of call might also be a commercial port but its purpose is to enable ship repairs and offer essential supplies such as water, food and firewood. Some ports of call may have been used for religious reasons such as offerings or prayer at a mosque or cave for a safe voyage (Pollard and Ichumbaki 2016, p. 473).

The name of Angoche relates to a port of call and the presence of ninth-tenth century storage vessels from southern Iran supports this theory. The small sample of first-millennium sites recorded around Angoche does not show evidence of imported artefacts for trading unlike other contemporary sites such as in the Comoros and at Chibuene. The storage vessels found on Nhanluqui may have been broken on transit and discarded or used in limited exchange for local supplies. This suggests glazed pottery and glass beads found at larger ports such as Chibuene were not favoured by the inhabitants of Angoche, though they may have traded

for less durable items such as cloth. A small amount of imports is also recorded at Kilwa during this period, suggesting that Angoche was part of a series of potential but not essential ports of call along the coast between Kaole Village and Unguja Ukuu in Tanzania and Chibuene in Mozambique (Pollard and Kinyera 2017, pp. 936–943).

The fertility of the islands would have made Angoche a popular port of call for supplies including wood, cotton and rope for boat repairs. Modern rops of sweet potato, cassava, banana, maize, coconut palm, papaya, sugar cane, pumpkin, mango and rice along with casuarina, cashew, baobab, tamarind, mango and citrus trees were recorded during the survey. This is compounded with sheep, goats, cattle, and poultry as well as bee hives. Fresh water is also available on the islands though the lack of stone meant the wells have been dug into sand and lined with coconut leaves.

Although difficult to ascribe to a definite date, a small area on the sand flat at Mitubani was enclosed with sand banks c. 5 m wide and 1 m high and used by children today for play. Local community members said it was built for this purpose, but this is unlikely due to the effort required to build a small enclosure just for children's football. It is more likely to have been a rice enclosure, but this ancient tradition appears to have been lost to local memory. Nhanluqui also has an old enclosure near the HWM of a mangrove creek. It comprises a sand wall that encloses a bay formed by the irregularly shaped sand spit at the edge of the mangrove channel. The sand wall is c. 2 m wide and 0.5 m high and encloses an area c. 30 m long and 8 m wide. There is an entrance of c. 2 m width to the creek which the sand wall does not cover. These sand enclosures are in sheltered parts of the island and near the HWM so they are not exposed to high-energy wave action. Nor are they exposed to large aeolian influences due to the shelter of creeks and mangroves. After being abandoned, they may be further stabilised by vegetation growth and in some cases, could be a few hundred years old. Pollard (2007, p. 461) recorded a similar abandoned rice enclosure in Jangwani Creek (in a similar environment to the areas found on Angoche) on Kilwa. However, this dates from the twentieth century. Industrial rice growing has been important in Angoche from the twentieth century, but the cultivation of the crop is probably older as it has been recorded from archaeobotanical studies on other sites along the Swahili coast including Tumbe on Pemba Island Tumbe (eighth to tenth century AD) and Chwaka



**Fig. 12** ‘Appearance of land near bar of Angoxa (Angoche) River’, by Senhor Augusto do Castilho, Commandante do Vapor de SMF Quilimane, Mozambique, 11 December 1873 (National Archives, ADM344.1066)

(eleventh to fifteenth century) where the abundance of rice increases in the later period (Walshaw 2010, pp. 141–142). Closer to Angoche, excavations on the Comoro Islands recovered rice from the ninth–tenth-century deposits (Wright 1984, pp. 48–54). The enclosures on Angoche could have been used for rice cultivation, and evidence suggests that this is an ancient tradition there. The production of rice would have helped in providing Indian Ocean sailors with subsistence on their passing journey.

The appearance of trade items in the later medieval period indicates that Angoche becomes more involved in the coastal trade, serving as a port of call for supplies and vessel repairs along with some commercial activity. Mangrove poles are gathered today at landing places for export and this was probably an ancient tradition to the limestone coast to the north. There are similarities in local and imported pottery found further north at Kilwa and Lamu Archipelago and south around Sofala from this period. The Husuni Modelled Ware is particularly diagnostic to the late thirteenth–fourteenth centuries at Kilwa, showing that Angoche was on the route from Kilwa to Sofala. The similarity in artefacts with Kilwa indicates that Angoche was under the influence of this entrepôt at this time. The Kilwa Chronicle records that Kilwa gained control of Sofala in the thirteenth century (Chittick 1974, p. 15), and Angoche could have been a port of call for merchants travelling to Sofala. Liesegang (1972, pp. 154–155) referred to a raised-pattern ware at Sofala dated to the Portuguese period. It appears similar to the Husuni Modelled ware at Kilwa. If these traditions are similar, and Liesegang’s dating is correct, it may be that Husuni Modelled ware continued in use for longer in northern Mozambique than at Kilwa, where it

was in use during the late thirteenth to fourteenth centuries (Chittick 1974, pp. 326–327).

In the fifteenth–sixteenth centuries, the imported artefacts show trade links with China, India and the Middle East (possibly earlier if the imports at the Catholic Church and Muchelele are contemporary with local artefacts found) along with local products such as gum copal and mangrove being exploited. Artefacts from the thirteenth–sixteenth centuries found on the islands of Catamoio, Nhanluqui, Mitubani and Joca are similar to those found around Kilwa, which shows a link to Kilwa earlier than the oral traditions of settlement in the late fifteenth century. Furthermore, the name of Quilua Island has obvious connections with Kilwa in southern Tanzania (Quilua is its Portuguese spelling). Quilua in Angoche may have been named after settlers or local people having close trade links with Kilwa in southeast Tanzania. The possibility that Angoche could be also be named after Unguja again either indicates settlers or local people wanting closer trade links and social ties with the Swahili coast farther north.

The maritime outlook of the islands is also apparent in the oral traditions, as the islands were marked out at this time to passing vessels by the grave of Hasani on Mafamete, who had links to Kilwa. Vessels would have stopped for prayers and perhaps offerings for a safe voyage. They may even have been obliged to visit the ruling family in Muchelele. On the southern entrance to the Quilua Channel, the name of one of the islands, Mitepene, suggests a landing place for mitepe, the traditional pre-twentieth-century ocean-going cargo vessels. There is evidence from ship engravings along the east African coast that similar vessels were used in the fifteenth century (Pollard and Bita 2017). However, the

survey team observed only muatia at landing places and collected sparse pottery of recent origin around Mitepene. Figure 12 shows a larger, two-masted sailing vessel in a coastal view associated with charting the coast in the nineteenth century, which also demonstrates the awkward channels through which to enter the harbour. The difficulties of navigating around the shallow water of Angoche are revealed by a 1512 Portuguese shipwreck of the *Nao Santa Antonio* on a shoal, although the captain was able to walk to one of the islands of Angoche when the tide went out (da Silva Rego and Baxter 1963, p. 179). He was taken prisoner and had to be exchanged for the sultan captured by the Portuguese in an expedition the previous year (Newitt 1972, pp. 401–402).

The recovery of reef coral and plaster fragments indicates an increasing trade with areas further north, where fringing reefs and limestone abound. The evidence from reef coral gravestones, reef coral in excavations and the building at Mitipene and possibly another at Quilua shows that there was once some trade in reef coral, lime and limestone presumably with the reef areas further north, such as Mozambique Island and Kilwa. Subsequently, many of these stone ruins, due to their rarity, are likely to have been demolished and burnt to make lime.

The naming of the islands of Mitepene and Quilua could have appeared at this time with their desired associations with the trade and immigrants from Kilwa. The traded artefacts of glass, beads and ceramic increased from the late medieval period, especially at Muchelele showing that this was the prime settlement. It reveals that Angoche was an important commercial port during this period as oral traditions and historical documents attest. The use of earthenware seals in transactions and the involvement of Angoche in the mangrove, slaves and rice trade suggest the storage of goods for export and the indication that Angoche had become an entrepôt. Furthermore, the islands were a centre for Islam and had a place of pilgrimage, with the tomb of Sultan Hasani of Quelimane on Mafamete in the late fifteenth century indicating investment in grander projects. A modern tower, which was seen during fieldwork from the northern entrance to the islands, shows that the island is an important navigational feature along this stretch of coast, which would be necessary to highlight to passing ships that they are at Angoche. The central settlement of Angoche at this period was Muchelele as evidenced from the extensive and deep midden, but

navigation into a tidal creek would have been difficult for ocean-going vessels. Therefore, the ports of Nhanluqui, Joca and Mitepene could have acted as outports with steeper-gradient beaches and thinner intertidal zones.

The increased wealth would have put Angoche in competition with Kilwa, which previously had more influence over this stretch of coast to Sofala. This competition could be reflected in the Kilwa Chronicle's record of successional disputes and forces being assembled in the late fifteenth century (Newitt 1972, pp. 398–399). Pawlowicz (2018, p. 264) says that new Indian Ocean trading opportunities opened up for settlements in southern Tanzania after Kilwa's decline from the sixteenth century, with the discovery of Chinese porcelain and Indian earthenwares around Mikindani Bay. However, if Angoche was an entrepôt, why did ibn Mājid not record the port in his navigation along the coast? There was a close relationship between Angoche and the neighbouring settlement of Moma and he may have referred to Angoche as part of that sultanate and, therefore, it was unnecessary to name separately (Khoury 1982, pp. 74–75; Syed 2011, pp. 162–163).

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#### Compliance with Ethical Standards

**Conflict of Interest** The authors declare that they have no conflict of interest.

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